Avian Influenza and Public Water Systems

This fact sheet is for public water systems that have concerns about their ability to ensure water they provide does not contain Avian Influenza viruses. This information is based on the state of scientific knowledge as of March 2006 and may need to be revised as our understanding of avian influenza develops.

Avian influenza (bird flu) is an infectious disease of birds caused by type A strains of the influenza virus. Avian influenza, especially the H5N1 strain, has become a worldwide concern. Wild birds carry avian influenza in their intestinal tract and can shed the virus in their feces. Avian influenza has been detected in Asia, Africa and Europe and is expected to make its way to North America, possibly as early as this Spring. Alaska is expected to be a primary entry point for the virus due to the migration pattern of wild birds from Asia and Europe. State and federal agencies are creating response plans to be implemented if H5N1 avian influenza is detected in Alaska.

Avian influenza is not expected to pose a major threat to drinking water supplies in Alaska. However, certain water birds can act as hosts for avian influenza by carrying the virus in their intestinal tracts and shedding it in their feces. There is a potential that infected birds could land in surface water sources that are used to supply drinking water, such as lakes, rivers, tundra ponds and reservoirs. Avian influenza is a fragile virus but it can survive in contaminated surface water for months in colder climates. If your drinking water comes from a surface water source, it will be important to make sure your current treatment processes are optimized so that the virus is inactivated if it enters your treatment system.

Current drinking water regulations, 18 AAC 80.600, require that all surface water sources be filtered and disinfected before being distributed to the public. There are a few public water systems in Alaska that currently avoid filtration under the criteria listed in 18 AAC 80.620, but these systems do disinfect their drinking water to inactivate bacteria, viruses and other pathogens. Public water systems that use a source that has been determined to be Groundwater Under the Direct Influence of Surface Water (GWUDISW) are required to provide the same level of filtration and disinfection treatment as surface water sources. (18 AAC 80.605)

Filtration and disinfection are very effective in removing and inactivating the avian influenza virus. Normal disinfection contact times will provide adequate protection against the avian influenza virus. It is also important to remove as much organic material (turbidity) from the raw water as possible. Organic material present in the water can interfere with the disinfection process. Filtration processes, which precede the disinfection process, are utilized to

remove turbidity from raw water. Optimization of the filtration process will reduce turbidity so that the disinfection process is effective in inactivating bacteria, viruses and other pathogens.

People should not drink untreated water from any surface water source. Hunters, hikers, and other outdoors persons should be sure to treat any water used for drinking water or cooking by either boiling the water for at least 3 minutes or disinfecting with chlorine or Ultraviolet (UV) radiation. Portable filtration units alone are not effective in removing or inactivating viruses. It is important to read the manufacturer's information provided with any portable filtration or disinfection device. The information will explain the percentage of virus inactivation that can be achieved with the device.